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Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2007

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	(\$)	500.00
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Complete if Known

Application Number	10/822,747-Conf. #4591
Filing Date	April 13, 2004
First Named Inventor	Robert G SANDERS
Examiner Name	B. M. Kurtz
Art Unit	1723
Attorney Docket No.	4021-0126PUS2

METHOD OF PAYMENT (check all that apply)

Check Credit Card Money Order None Other (please identify): _____
 Deposit Account Deposit Account Number: 02-2448 Deposit Account Name: Birch, Stewart, Kolasch & Birch, LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

Charge fee(s) indicated below Charge fee(s) indicated below, except for the filing fee
 Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 Credit any overpayments

FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

<u>Application Type</u>	<u>FILING FEES</u>		<u>SEARCH FEES</u>		<u>EXAMINATION FEES</u>		<u>Fees Paid (\$)</u>
	<u>Fee (\$)</u>	<u>Small Entity Fee (\$)</u>	<u>Fee (\$)</u>	<u>Small Entity Fee (\$)</u>	<u>Fee (\$)</u>	<u>Small Entity Fee (\$)</u>	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES**Fee Description**

Each claim over 20 (including Reissues)

<u>Small Entity Fee (\$)</u>	<u>Fee (\$)</u>
50	25
200	100
360	180

Each independent claim over 3 (including Reissues)

Multiple dependent claims

<u>Total Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	<u>Multiple Dependent Claims</u>
- 33 =	x	=		<u>Fee (\$)</u> <u>Fee Paid (\$)</u>

HP = highest number of total claims paid for, if greater than 20.

<u>Indep. Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
- 3 =	x	=	

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<u>Total Sheets</u>	<u>Extra Sheets</u>	<u>Number of each additional 50 or fraction thereof</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
- 100 =	/50 =	(round up to a whole number) x	=	

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): 1402 Filing a brief in support of an appeal

500.00

SUBMITTED BY		Registration No. (Attorney/Agent)	Telephone
Signature		43,368	(703) 205-8000
Name (Print/Type)	Paul C. Lewis	Date	June 12, 2007



MS APPEAL BRIEF - PATENTS
Docket No.: 4021-0126PUS2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Robert G SANDERS

Application No.: 10/822,747

Confirmation No.: 4591

Filed: April 13, 2004

Art Unit: 1723

For: ATMOSPHERIC PLASMA TREATMENT OF
MELTBLOWN FIBERS USED IN
FILTRATION

Examiner: B. M. Kurtz

APPEAL BRIEF TRANSMITTAL FORM

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an Appeal Brief on behalf of the Appellants in connection with the above-identified application.

The enclosed document is being transmitted via the Certificate of Mailing provisions of 37 C.F.R. § 1.8.

A Notice of Appeal was filed on April 13, 2007.

Applicant claims small entity status in accordance with 37 C.F.R. § 1.27.

The fee has been calculated as shown below:

Extension of time fee pursuant to 37 C.F.R. §§ 1.17 and 1.136(a) -

- Fee for filing an Appeal Brief - \$500.00 (large entity).
- Check(s) in the amount of \$500 is(are) attached.
- Please charge Deposit Account No. 02-2448 in the amount of \$500.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: June 12, 2007

Respectfully submitted,

By 
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Attachment(s)



Docket No.: 4021-0126PUS2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Robert G SANDERS

Application No.: 10/822,747

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For: ATMOSPHERIC PLASMA TREATMENT OF
MELTBLOWN FIBERS USED IN
FILTRATION

Examiner: B. M. Kurtz

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

As required under § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on April 13, 2007, and is in furtherance of said Notice of Appeal.

The fees required under § 41.20(b)(2) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.2:

I.	Real Party In Interest	06/13/2007 SZEWDIE1 00000066 022448 10822747
II	Related Appeals and Interferences	01 FC:1402 500.00 DA
III.	Status of Claims	
IV.	Status of Amendments	
V.	Summary of Claimed Subject Matter	
VI.	Grounds of Rejection to be Reviewed on Appeal	
VII.	Argument	

VIII.	Claims
Appendix A	Claims
Appendix B	Evidence
Appendix C	Related Proceedings

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

Lydall, Inc., the assignee

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals, interferences, or judicial proceedings that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application:

There are 14 claims pending in application.

B. Current Status of Claims:

1. Claims canceled: 2, 5, 8, 11, 14, 16-18, 20, 23, and 25-33;
2. No claims are withdrawn from consideration;
3. Claims pending: 1, 3, 4, 6, 7, 9, 10, 12, 13, 15, 19, 21, 22, and 24;
4. No claims stand allowed. The claims were changed by a Preliminary Amendment from product-by-process claims to method claims.
5. Claims rejected: 1, 3, 4, 6, 7, 9, 10, 12, 13, 15, 19, 21, 22, and 24

C. Claims On Appeal

All of the pending claims are on appeal.

IV. STATUS OF AMENDMENTS

Applicant filed an Amendment After Final Rejection on February 12, 2007, and it has been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention resides in a method of modifying the surface of thermoplastic fibers used in filter media. As explained in paragraph [0003], electret fibers, formed of fibers that are electrostatically charged, can be compensated for loss of filtering efficiency [paragraph 0005] by plasma treatment in a chamber of reduced pressure, but the reduced pressure treatment has serious disadvantages. The invention provides a method of treatment in a gaseous plasma at atmospheric pressure by using as the gaseous plasma one which consists essentially of air and at least one inert gas selected from the group consisting of He, Ar, Ne, N₂, Kr, and combinations thereof [paragraphs 0022 and 0057]. That atmospheric plasma treatment leads to improved filtration by, for example, itching the surface of the fibers [paragraphs 0023 and 0024]. This results in a web of filtration fibers with at least a 1½ times improvement, and even at least a 5 times improvement [paragraph 0031]. Also see the EXAMPLES.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

In the Final Rejection, the main claim now on appeal and all defendant claims were rejected under 35 U.S.C. § 103(a) as unpatentable over Roth et al '453 in view of Jones et al '544. The Roth patent was newly cited and the Jones patent had been previously relied upon by the Examiner in rejecting claims under 35 U.S.C. § 102(e). In the Amendment Under 37 C.F.R. § 1.116, it was pointed out that the Jones et al. reference intends the treatment in an atmosphere that is substantially free of oxygen, preferably having less than 0.1% oxygen in that atmosphere (see the last paragraph at column 4, and especially lines 65-67). The present atmosphere must contain oxygen in the form of air.

In the Advisory Action of March 6, 2007, for the first time, the Examiner asserts that the process of Jones et al., "takes place before or after the gaseous plasma treatment".

"The two processes are separate from one another and therefore conditions under which each occur may be separate as indicated by paragraph 0024". The Examiner has, thus, apparently abandoned the previous position stated in the Final Rejection and now relies on this new interpretation of the Jones et al. reference.

It is believed that this new position of the Examiner is an error, that the Examiner has both misconstrued the teachings of Jones et al and has improperly selected teaching from both Roth et al and Jones et al and combined these selected teachings in a way not only contrary to the references intentions but in a way not remotely suggested by any prior art. Thus, clear error by the Examiner for review on appeal is presented.

VII. ARGUMENT

The Rejection of all pending claims under 35 U.S.C. § 103(a)

In the Final Rejection, claims 2, 3, 5, 6, 8, 9, 11-15, and 19-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Roth '453 in view of Jones et al. US (6,953,544). Claims 1, 4, 7, and 10 were rejected over Roth et al. US (5,403,453) under 35 U.S.C. §102(b).

The Amendment of December 13, 2006 under 37 C.F.R. §1.116, which was entered, incorporated claim 2 into claim 1. Hence, the only remaining rejection in this appeal is that under 35 U.S.C. § 103, identified above.

For context purposes of the below reasons for reversal of the Examiner rejection, it is noted that in the first Official Office Action of July 18, 2006, the Examiner rejected all of the claims, including the present claims on appeal, as anticipated by Jones et al. in that the references taught a method of making a filter media with thermoplastic fibers modified by a gaseous plasma at atmosphere pressure that may contain air and the inert gases of helium, argon or nitrogen, and specifically referenced column 4, line 58 – column 5, lines 15. To this position the Applicants pointed out in the Amendment of September 28, 2006, that Jones et al specifically teaches that the atmosphere must be substantially free of oxygen and this disclosure, therefore, specifically excludes the present required use of air.

In the Final Rejection of December 13, 2006, the Examiner cited a new reference, Roth et al. and took the position that it would be obvious to use the fibers of Jones et al. in the method of Roth et al. Thus, in this rejection, Jones et al. is not cited as teaching the method, as in the previous rejection, and Roth et al. is relied upon for a teaching of the method. In the Amendment of February 12, 2007, under 37 C.F.R. § 1.116, among others, the Applicants pointed out that Roth et al. teaches an isolation barrier 22 so as to provide a predetermined resistance time of a web W between plates 10 by reciprocation a gas flow containing an active species, e.g. photons, atoms, free radicals, ions, et cetera, generated by the plasma.

However in the Advisory Action of March 6, 2007, the Examiner now argues that Jones et al. teaches two processes that are separate from one another. The rejection now hinges on the idea that Roth et al. teach the method of a gaseous plasma treatment and Jones et al. teach an electrostatically charged media by corona discharge. Thus, the Examiner reasons that one of ordinary skill in the art would use an electrostatically charged media of Jones et al. because an electret is effective in enhancing particle capture in aerosol filters.

Accordingly, **as can be best understood by the Appellants**, the Examiner now takes the position that both Jones et al. and Roth et al. are combined to provide parts of the process claimed by the Appellant.

This ever moving target of the rejection is difficult to pin down, but in a broader sense, this ever moving target is strong evidence that the present process is not obvious from the references themselves and the rejection is merely based on ever shifting constructions of the references by the Examiner as guided by the present disclosure and claims, in order to attempt a rational rejection. In view of these shifting rejections, it is necessary to provide that which should be an unnecessary, but is now a necessary, i.e. a very detailed description of the references themselves.

As Jones et al. very specifically points out at column 1, line 16, the invention of that reference relates to preparing fluorinated electrets, quite opposite to the present invention. In the summary of the invention at column 1, lines 58-60, it is stated:

"In one aspect, the invention features an electret that includes a surface modified polymeric article having **surface fluorination** produced by **fluorinating** a polymeric article."(Emphasis added)

As stated in column 2, lines 5-12, non-woven polymeric fibrous webs may be so treated, and at line 22-25, it is stated that the invention also involves filters that include those electrets. At lines 26-30, it is pointed out that this can be achieved by fluorinating a polymeric article to produce surface fluorination and then charging the polymeric article to produce an electret. At lines 42-44, it is stated that the method includes fluorinating a polymeric article in the presence of an electrical discharge. Stated another way, the Examiner is correct in that the reference does disclose two separate processes, i. e., first fluorinating the article and then subjecting the article to charging so as to produce an electret, **or** fluorinating the article in the presence of an electrical discharge to produce the fluorinated electret. **However, both relate to a fluorination process.**

At column 4, lines 58-end, the fluorination process is described, and it involves modifying the surface of the polymeric article so as to contain fluorine atoms by exposure of the article to an atmosphere that includes the fluorine species. The process can be performed at atmospheric pressure or under reduced pressure, but the atmosphere must be substantially free of oxygen and other contaminants. Obviously, oxygen would react with the fluorine. Thus, preferably the atmosphere contains less than 0.1 % oxygen.

At column 5, lines 13-15 it is pointed out that the atmosphere of fluorine can also include an inert diluent gas such as helium, argon, nitrogen and combinations thereof.

At column 5, lines 16-28, Jones et al. describe an electrical discharge applied during the fluorination process, i.e. during the process that is substantially free of oxygen and, among others, a corona discharge plasma at atmospheric pressure is disclosed.

The Examiner does not specifically identify the portions of Jones et al. being relied upon in the Advisory Action, but does reference paragraphs 24 and 35. There are no paragraphs 24 and 35 in the printed patent, but from the description in the Advisory Action, it is assumed that the Examiner is referencing that portion quoted above at column 2, lines 26-52, since that portion

does state that fluorination and then charging may take place or fluorination while charging may take place. However, the Examiner specifically states:

“According to the specification (paragraphs 24 and 35) the process of electrostatically charging the fibers by a corona discharge takes place before or after the gaseous plasma treatment. The gaseous plasma treatment serves to enhance filtration properties by POST charging the media. The two processes are separate from one another and therefore the conditions under which each occur may be separate as indicated by paragraph 24.”

This position of the Examiner is certainly not clear and seems to be inconsistent with the working examples. In Example 1, the microfiber web is treated with AC corona and fluorination in a helium atmosphere with a corona power of 2000 watts. This is a combination of fluorination and an electrical discharge. This is the second process described by Jones et al. column 2, lines 22-52. This second process is described specifically at column 2, lines 42-44, and the process of examples 2-9 are the same. However, in Example 10, the AC corona, fluorinated web of Example 1 is hydrocharged at a hydrostatic pressure of about 90 psi from a pair of Spraying Systems Teejet 9501 sprayer nozzles. The remaining examples indicate details or variations of the same method, with the exception of Example 41. In Example 41, a vacuum glow-discharge is used in a fluorine environment and the glow-discharge treatment was performed in a vacuum chamber quite opposite to the present invention. **However, both processes require fluorination in the absence of oxygen.**

Present claim 1 requires that thermoplastic fibers are surface modified by treatment with gaseous plasma at atmospheric pressure. That gaseous plasma **consists essentially of air and the nominated inert gases**, and the thermoplastic fibers are electro statically charged. Thus, as stated above in connection with the summary of the invention, the purpose of the invention is carrying out the surface modification in gaseous plasma at atmospheric pressure with air and the nominated inert gases

Contrary to this method, Jones et al. specifically teach, as noted above, that the electrets of that invention which are useful in filters must have **surface fluorination**, irrespective of the process use, i. e., the first or the second process. As noted above, the surface fluorination may be

first performed and then the charging of the fluorinated article is performed, or the fluorination may take place in the presence of electrical charging. However, an irrespective of which of those two methods is used, fluorination must occur and it must be carried out in the absence of air. Thus, if one chooses the second of the processes, as now relied upon by the Examiner, it is still carried out in the presence of fluorine and in the absence air. The present invention does not involve fluorination and such fluorination is ruled out by claim 1 in that claim states, "wherein the gaseous plasma consists essentially of". Further, the claim requires that the gaseous plasma not only include air, but also include the defined inert gases. The only use of inert gases disclosed by Jones et al. is in a fluorination process.

It is difficult to see how one skilled in the art viewing the teaching of Jones et al that certain inert gases may be used in a fluorination process would find it obvious to carryout surface modification in a gaseous plasma of air, which is specifically excluded by Jones et al and without fluorination, in order to reach the present process.

Turning now to the Roth et al patent, in the Advisory Action the Examiner states that Roth et al teach the method of gaseous plasma treatment. Apparently, the Examiner believes that Roth et al. supplies the missing teachings of Jones et al., noted immediately above. Roth et al. is directed to a glow discharge plasma. Roth et al. provides narrow material flow slits 23 in isolation barrier 22 between plates 10 so to provide a predetermined residence time of web W between the plates 10 (see column 4, lines 30-36). As best seen in Figure 6, that residence time is provided by reciprocating a gas flow containing an active species generated by the plasma, back and forth through the web, which reciprocating gas flow is achieved by bellows 35 or piston 36 (see column 4, lines 57-69). This flow differential assures an internal saturation of the web W by the gas containing the active species generated by the plasma (see column 5, lines 8-10). The active species generated by the glow discharge plasma include, among others, photons, individual atoms, free radicals, molecular fragments, electrons, and ions (see column 1, lines 53-65). These active species are absolutely necessary to the process of Roth et al. (as summarized in claim 1 of that patent), and the glow discharge plasma must be arranged to generate those active species.

Contrary to Roth et al., the plasma of the present invention is not one that generates any active species, but involves either cumulative or alternatively, etching, cleaning, and increasing the amount of additives from the interior surface of the micro fibers (see paragraphs 24, 25, and 26 of the present specification). With the present process, i.e. treatment with the present gaseous plasma, electrostatic charging is improved (see paragraph 35 of the present disclosure), and that is the purpose of the invention, as was originally brought out in originally presented claim 2 and now the subject matter of amended claim 1, the main claim on appeal.

It is difficult for the Appellants to see how one of ordinary skill in the art viewing the Roth et al. process that teaches the generation of an active species and viewing the Jones et al. process which teaches fluorination of a polymeric fiber with the exclusion of air, could arrive at the present process of improving electro statically charged fibers by the present operation of an atmospheric pressure gaseous plasma in the presence of air and the nominated inert gases, and without the active species of Roth et al (note the consisting essentially of language). Neither has the Examiner provided any rationale that would allow any combination of the two references, by any logical progression, to arrive at the present invention. The Examiner has merely "shopped" the references to pick out isolated and contradictory parts thereof in arriving at the present rejection, as guided by the present specification and claims, which is quite contrary to well established case law, and case law so well known that citations are not necessary.

Also, the Examiner has provided no motivation taught by either of the references, or any reference, for modifying either of the two references to arrive at the present invention, and the establishment of such motivation is required under the law for a proper rejection.

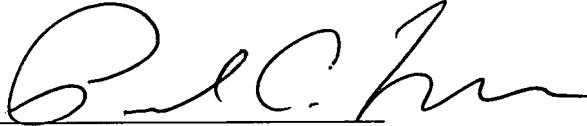
These foregoing errors in the Examiner's position are clear, and it is further most clear that the combination of the two references is merely nothing more than picking and choosing from contradictory references isolated portions thereof, as guided by the present specification and claims, to reach a conclusion of obviousness. Therefore, it is believed that the rejection is clearly in error and should be reversed.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include the amendments filed by Applicant on February 12, 2007.

Dated: June 12, 2007

Respectfully submitted,

By 

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APPENDIX A

Claims Involved in the Appeal of Application Serial No. 10/822,747

1. (Previously Presented) In a method of making a filter media comprising a web of thermoplastic fibers, wherein said thermoplastic fibers are surface modified by treatment with a gaseous plasma at atmospheric pressure, the improvement wherein the gaseous plasma consists essentially of air and at least one gas selected from the group consisting of He, Ar, Ne, N₂, Kr and combinations thereof, and the thermoplastic fibers are electrostatically charged.
2. (Canceled)
3. (Previously Presented) The method according to claim 21, wherein the electro statically charged thermoplastic fibers are electro statically charged by a corona discharge method.
4. (Previously Presented) The method according to claim 1, wherein said gaseous plasma is a He/air mixture.
5. (Canceled)
6. (Previously Presented) The method according to claim 3, wherein said gaseous plasma is a He/air mixture.
7. (Previously Presented) The method according to claim 1, wherein said gaseous plasma is an Ar/air mixture.
8. (Canceled)
9. (Previously Presented) The method according to claim 3, wherein said gaseous plasma

is an Ar/air mixture.

10. (Previously Presented) The method to claim 1, wherein said thermoplastic fibers are made from one or more of the members selected from the group consisting of polyolefins, polyesters, polycarbonates, polyimides, and polyamides.

11. (Canceled)

12. (Previously Presented) The method according to claim 3, wherein said thermoplastic fibers are made from one or more of the members selected from the group consisting of polyolefins, polyesters, polycarbonates, polyimides, and polyamides.

13. (Previously Presented) The method according to claim 1, wherein the web is a fibrous layer of melt extruded fibers or filaments.

14. (Canceled)

15. (Previously Presented) The method according to claim 3, wherein the web is a fibrous layer of melt extruded fibers or filaments.

16-18. Canceled.

19. (Previously Presented) The method according to claim 1, wherein the web is comprised of carded, airlaid, or wetlaid staple fibers.

20. (Canceled)

21. (Previously Presented) The method according to claim 3, wherein the web is comprised of carded, airlaid, or wetlaid staple fibers.

22. (Previously Presented) The method according to claim 1, wherein the web is comprised of a layer of melt extruded fibers and a layer of any one or more of carded, airlaid, or wetlaid staple fibers.

23. (Canceled)

24. (Previously Presented) The method according to claim 3, wherein the web is comprised of a layer of melt extruded fibers and a layer of any one or more of carded, airlaid, or wetlaid staple fibers.

25-33. Canceled.

APPENDIX B

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

APPENDIX C

No related proceedings are referenced in II. above, hence copies of decisions in related proceedings are not provided.